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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/307,988	05/10/1999	WILLIAM B. TELFAIR	VISX0011U/US	5573

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NEIFELD IP LAW, PC  
CRYSTAL PLAZA 1, SUITE 1001  
2001 JEFFERSON DAVIS HIGHWAY  
ARLINGTON, VA 22202

EXAMINER

SHAY, DAVID M

ART UNIT	PAPER NUMBER
3739	

DATE MAILED: 03/24/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

MF

<b>Office Action Summary</b>	Application No.	Applicant(s)
	09/307,988 Examiner <i>D. Shay</i>	Telfair et al Group Art Unit 3739

—The MAILING DATE of this communication appears on the cover sheet beneath the correspondence address—

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE —3— MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, such period shall, by default, expire SIX (6) MONTHS from the mailing date of this communication .
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

**Status**

Responsive to communication(s) filed on December 17, 2002.

This action is FINAL.

Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

**Disposition of Claims**

Claim(s) 61-96 is/are pending in the application.

Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

Claim(s) \_\_\_\_\_ is/are allowed.

Claim(s) 61-96 is/are rejected.

Claim(s) \_\_\_\_\_ is/are objected to.

Claim(s) \_\_\_\_\_ are subject to restriction or election requirement.

**Application Papers**

See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

The proposed drawing correction, filed on \_\_\_\_\_ is  approved  disapproved.

The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner.

The specification is objected to by the Examiner.

The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. § 119 (a)-(d)**

Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

All  Some\*  None of the CERTIFIED copies of the priority documents have been received.

received in Application No. (Series Code/Serial Number) \_\_\_\_\_.

received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\*Certified copies not received: \_\_\_\_\_.

**Attachment(s)**

Information Disclosure Statement(s), PTO-1449, Paper No(s). \_\_\_\_\_

Interview Summary, PTO-413

Notice of Reference(s) Cited, PTO-892

Notice of Informal Patent Application, PTO-152

Notice of Draftsperson's Patent Drawing Review, PTO-948

Other \_\_\_\_\_

**Office Action Summary**

The numbering of claims is not in accordance with 37 CFR 1.126 which requires the original numbering of the claims to be preserved throughout the prosecution. When claims are canceled, the remaining claims must not be renumbered. When new claims are presented, they must be numbered consecutively beginning with the number next following the highest numbered claims previously presented (whether entered or not).

Misnumbered claims 85-91 have been renumbered 90-96.

The dependencies of claims 91-94 have been changed to conform to the above remembering.

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 61-63, 65-80, and 85-96 are rejected under 35 U.S.C. 103(a) as being unpatentable over in Lin in view of Tang et al. Lin teaches performing corneal sculpting with radiation in the 2.5-3.2 micron range generated by an OPO with pulse width in the 1-40 nsec range. Tang et al teach producing radiation in the range of Lin using a CPM KTP OPO pumped at about 1 micron, the pump thresholds are discussed as 0.5 mJ corresponding to 30 KW power and 17 MW/cm<sup>2</sup>. To produce 0.5 mJ with a 30 KW pulse requires a pulsed width of 17 nanoseconds to produce a power density of 17 MW/cm<sup>2</sup> with 30 KW pulse yields (assuming a circular beam cross section) a beam radius of 562 microns, which is well in excess of eight times the diffraction limit of a multi-mode beam. It would have been obvious to the artisan of ordinary skill to employ the OPO of Tang et al in the method of Lin, since this enables effective tuning in the desired range as taught by Tang et al; to employ a mirror that transmits the pump pulse at a forty five degree angle thereto since the does not manipulatively affect the method and is

notorious in the art as has been previously set forth; to tune the output to be in the 2.75-3.0 micron range, since Lin gives no indication that this portion of Lin's range should be avoided, the claimed range is not critical, and the wavelengths near 3 microns are notoriously useful for surgery, official notice of which has already been taken; to increase the power of the pump beam by increasing the energy of the pump, since this would reduce the thermal damage to the non-linear material compared to increasing the pulse width official notice of which has already been taken, and to transmit pump radiation exiting the crystal to a second KTP crystal and interlace the resulting idlers, since these are equivalents, provide no unexpected result, and are known configurations in the art, official notice of which has already been taken thus producing a method such as claimed.

Claims 82 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lin in view of Bosenberg et al. Lin teaches a method as claimed except for the particular non-linear material. Bosenberg et al teach generating wavelengths in the range desired by Lin using the non-linear material claimed. It would have been obvious to the artisan of ordinary skill to employ an OPO using the non-linear material of Bosenberg in the method of Lin since this can produce the desired wavelengths, is not critical, provides no unexpected result, and does not manipulatively effect the method, thus producing a method such as claimed.

Claims 83 and 84 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lin in view of Rines. Lin teaches a method as claimed except for the pump wavelength. Rines teaches using a Titanium Sapphire laser to pump KTP to produce mid-infrared radiation in a NCPM OPO. It would have been obvious to use the of OPO of Rines in the method of Lin, since this is

not critical, provides no unexpected result, and does not manipulatively affect the method, thus producing a method such as claimed.

Claims 81 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lin in combination with Bosenberg et al as applied to claim 82 above, and further in view of Mead et al. Mead et al teach the equivalence of periodically poled LiNbO<sub>3</sub> and periodically poled KTP for non-linear wavelength conversion. It would have been obvious to the artisan of ordinary skill to employ periodically poled KTP in the method of Lin and Bosenberg et al, since this produces no manipulative effect and is a recognized equivalent to periodically poled LiNbO<sub>3</sub>, as taught by Mead et al, thus producing a method such as claimed.

Applicant argues that Lin et al does not enable one having ordinary skill in the art to produce the claimed invention, pointing to alleged deficiencies in the article cited therein. However, as Lin is an issued U.S. patent, applicant's arguments, drawn to the alleged insufficiencies in an article with a publication date four years prior to the filing date of the application that matured into the Lin patent, during which four years, the level of one having ordinary skill in the art has increased substantially are insufficient to rebut the presumption of validity enjoyed by U.S. Patent 5,520,679. This substantial increase in the knowledge of one having ordinary skill in the art at the time of the invention being evidenced by the teachings of the secondary references wherein the claimed wavelengths are produced with the claimed materials. Thus, the disclosure of Lin, in as much as it describes the claimed embodiments (e.g. claim 10 thereof) is regarded as enabling of applicant's claimed invention. However even assuming, arguendo that the specification of Lin is in some way insufficient to enable one having

ordinary skill in the art to produce the claimed method at the time of the invention, any such deficiency is remedied by the teachings of the secondary references combined therewith.

Applicant's arguments filed December 17, 2002 have been fully considered but they are not persuasive. The arguments are not persuasive for substantially the reasons set forth above.

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication should be directed to David Say at telephone number 703-308-2215.



Shay/dl

March 20, 2003

DAVID M. SHAY  
PRIMARY EXAMINER  
GROUP 330